base of the antennae, two orbital bristles outside each row; a long pair of bristles directed backwards on the vertex, and a shorter pair directed forwards on the ocellar area; the front golden on each side, this color extending as far down on the cheeks as do the frontal bristles, the rest of the cheeks and face gray; facial ridges with bristles extending fully or more than half way up the face; antennae not quite so long as the face, blackish, second joint short, the third joint nearly or quite three times as long as the second; arista black, two-jointed, the basal half thickened; vibrissae somewhat removed from the oral margin; proboscis blackish, palpi light reddish-yellow, black bristly; lower cheeks dark gray, with black bristles; occiput ashy, gray pilose, with black bristles on the borders. Thorax above leaden gray, with four black lines, with numerous black bristles becoming longer behind, and covered with short black hairs; humeri and pleurae gray, the bristles and short hairs of the dorsum extending below on the sides of the thorax; scutellum dull gray, darker at the base, covered with short black hairs, and with eight marginal macrochaetae, the longest pair reaching the base of the third abdominal segment, a shorter decussate pair between them. Abdomen ovate, first segment black above; second and third segments leaden gray, densely covered with short black bristles, each one arising from an opaque black dot; anal segment obscure golden pollinose, edges of segments black; a dorsal pair of weak macrochaetae near the hind margin of the first segment, a stronger pair on the second, four pairs on the third, and about twice as many on the anal segment; venter dull gray, anal segment obscure golden as above, incisures and median line black. Legs black, femora and tibiae black bristly; claws short, pulvilli dusky. Wings grayish hyaline, fourth vein without wrinkle or stump, third vein bristly above and below at its origin; tegulae white, halteres dusky brown.

Length of body 7 to 7½ mm; of wing 5½ to 6 mm.

Described from three specimens, bred from larvae of *Clisiocampa sylvatica*. Orono, Maine. I believe I am right in referring this species to Phorocera, although in some specimens the bristles on the facial ridges do not extend more than half way up the face. This species seems to be near *Tachina* (*Masicera*) *armigera* Coquillett (Insect life, 1, 332), which however is said to have the eyes bare. I would not be surprised if the latter should prove to be a Phorocera.

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EDWARDS'S BUTTERFLIES OF N. AMERICA.

The eleventh part of the Butterflies of North America, just issued, is in every way equal to its predecessors. For the first time in this third series, each of the three large quarto plates, with the accompanying text, is given up to a single and relatively little known species of butterfly, two of them to species of Satyrinae, a group which nowhere in the world has found so complete a treatment as in America, at the hands of our author. Excepting for the intermediate larval stages of *Satyrus meadii*, every single stage of the creature's life is represented, usually by more than a single figure, and all in that exquisite and finely exact style we have become accustomed to in this work, but which can never be too highly praised or too fully appreciated. Such illustrations lie at the very foundation of the exact knowledge of butterflies, and are the key to any proper understanding of their real relationships.

The butterflies treated of are *Apatura*

*flora*, *Satyrus meadii* and *Chionobas chryxus*, all of them living from five hundred to a thousand or two miles from Mr. Edwards's home, where they were bred and studied. This shows at once the opportunities to be overtaken by any zealous student, and renders possible thorough acquaintance with our entire fauna. Mr. Edwards hints here and there at some of the difficulties of the work, to have overcome which, even partially, in the case of such distant and secluded insects as this Satyrus and this Chionobas, is a high merit indeed! *Apatura flora* is an inhabitant of our extreme southern border; *Satyrus meadii* lives at moderate altitudes in restricted localities in Colorado, New Mexico, Arizona and Montana; and *Chionobas chryxus* at higher elevations in the Rocky Mts. from Colorado to British America and, if with Mr. Edwards we include calais in the species, also across the continent in the higher north. In all three species the caterpillars hibernate in early life, but the history of the species as given here presents nothing of unusual interest and closely resembles that of their nearest allies. Eighty-one figures, most of them colored and many much magnified, are given on the three plates.

Fifth report of the U. S. entomological commission.—Dr. Packard's treatise on forest insects, only just issued though completed over three year's ago, closes the work of the U. S. entomological commission. It is based on a former "bulletin" of the commission, but is vastly enlarged and abounds in illustrations many of which, unfortunately, conform to the standard of those published years ago by the agricultural department, but are much inferior to those now published by its division of entomology. One can quickly see by a glance through the volume of more than 900 pages, 40 plates and 300 cuts in the text that it is a veritable store house of facts and observations, and is worked out in the same way as the previous bulletin. It has the faults of many government publications that the material is too little sifted and digested, but there can be no doubt of its great service. A systematic index of the insects is sadly needed; the very plan of the book particularly requires it.

Personal Notes.—Mr. William Beutenmüller has recently been appointed curator of the department of entomology in the American museum of natural history in Central Park, New York City.

Mr. C. H. Tyler Townsend has just taken the post of entomologist at the agricultural experiment station at Las Cruces, New Mexico.

## PROCEEDINGS OF SOCIETIES.

### CAMBRIDGE ENTOMOLOGICAL CLUB.

8 February, 1889.—The 143d meeting was held at 156 Brattle St., the president in the chair.

Mr. G. Dimmock read part of a letter from Mrs. C. M. Winston describing the resemblance of some "walking-sticks" to the plants on which they lived.

Mr. Dimmock showed a collection of Cynipidae with their galls given to the Club by Mr. C. P. Gillette of Iowa; it was voted to give the collection to the Boston society of natural history.

Mr. J. H. Emerton showed specimens of Hypochilus, a spider recently described by Geo. Marx which has the cribellum and calamistrum like Filisata and also four respiratory sacs like the Theraphosidae. These specimens were collected by Miss Mary T. Palmer at Manitou, Col.

Mr. Emerton also made some remarks on the spiders collected by the Messrs. Smith of Brooklyn, N. Y. in the province of Matto Grosso in Brazil.

Mr. S. H. Scudder explained the history of a newspaper account of a pretended great flight of butterflies at Westerly, R. I.

Mr. H. Hinkley showed some artificial insects made by Japanese and made some remarks on the breeding habits of Lepidoptera.